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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kang-Hyun Jo

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EXAMINER

TORRES, JUAN A

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/966,507	<b>Applicant(s)</b> JO ET AL.	
	<b>Examiner</b> Juan A. Torres	<b>Art Unit</b> 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

The modifications to the specification were received on 04/25/2005. These modifications are accepted by the Examiner.

### ***Claim Objections***

In view of the amendment filed on 04/25/2005, the Examiner withdraws claim objections of claims 1, 4 and 6 of the previous Office Action.

### ***Response to Arguments***

Applicant's arguments filed on 04/25/2005 have been fully considered but they are not persuasive.

The Applicant contends, "Regarding the Examiner's rejection of independent Claim 1 under 35 U.S.C. 102(e), the Examiner states that Gillig teaches all the recitations of Claim 1. Upon review of the cited references, it is respectfully submitted that the Examiner is incorrect. Gillig teaches an apparatus and method which enables elements of a phase locked loop (PLL). Gillig further teaches "[t]he controller 301 enables a first element of the plurality of elements, having a first response time, at the first time responsive to the first control signal at line 302, and enables a second element of the plurality of elements, having a second response time less than the first response time, responsive to the first response time and the second control signal." (Column 4,

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Lines 38-46, and FIGs. 3-5). Gillig further teaches "the first element of the plurality of Lines 38-46, and FIGs. 3-5). Gillig further teaches "the first element of the plurality of elements is a voltage controlled oscillator," "the second element of the plurality of elements is a loop divider" (Column 4, Lines 48-52), and that "[c]ontrol signal 303 *keeps the other elements of the PLL 300 disabled.*" (Column 5, Lines 36-37, emphasis added). In other words, Gillig teaches a PLL wherein only select elements of the PLL are enabled and that other elements of the PLL are disabled (for example, the phase detector 202 is not enabled and does not produce a phase error signal at line 207 during warm-up of the PLL so that the PLL can lock in less time than was known. Contrary to that which is taught by Gillig, Claim 1 recites "a controller configured to control the first PLL block to *operate before a minimum time period* required for the first PLL block to lock up from the start point of a transmission burst period, and to control the second PLL block to *operate before a minimum time period* required for the second PLL block to lock up from the start point of a reception burst period" (emphasis added), which is not taught by Gillig. Accordingly, it is believed that the Examiner's rejection of Claim 1 is improper and therefore should be withdrawn."

The Examiner disagrees and asserts, that, it is inherently to the operation of the PLL that PLL block to operate before a minimum time period, otherwise the system will not work. Gillig discloses this point as indicated in the previous Office Action in column 4 line 39-46, also in the abstract (lock time), in column 4 lines 1-46, and in figure 6 with T1 and T2 column 9 lines 4-15. Gillig proposes a technique to reduce this lock time as indicated in the previous Office Action (column 4 line 39-46). Gillig also indicates this

lock time as prior art in his patent (US 5497126 column 3 line 36 to column 7 line 37) and in his patent with Kosiec (US 5838202 figures 4 and 5 column 7 line 52 to column 9 line 22), so the operation before a minimum time period is inherently in the use of PLL. These patents were presented in the previous Office Action.

The Applicant contends, "Regarding the Examiner's rejection of independent Claims 2-3 and 5 under 35 U.S.C. 102(e) it is respectfully submitted that the Examiner is incorrect. As discussed above, Gillig teaches, an apparatus and method that enables elements of a phase locked loop (PLL) wherein only select elements of the PLL are activated and that other elements of the PLL are deactivated during warm-up of the PLL so that the PLL can lock in less time than was known. Gillig does not teach "a controller for controlling the first PLL block to operate *before an end point of a reception burst period* and controlling the second PLL block to operate *before an endpoint of a transmission burst period*" (emphasis added) as recited in Claim 2. Furthermore, Gillig does not teach "controlling the first PLL block to operate *before a minimum time period required for The first PLL block to lock up* from the start point of a transmission burst period; and controlling the second PLL block to operate *before a minimum time period required for the second PLL block to lock up* from the start point of a reception burst period" (emphasis added) as recited in Claim 3. Moreover, Gillig does not teach "controlling the first PLL block to operate *before the endpoint of a reception burst period*; and controlling the second PLL block to operate *before the endpoint of a transmission burst period*" (emphasis added) as recited in Claim 5. Accordingly, it is believed that the

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Examiner's rejection of independent Claims 2, 3 and 5 under 35 U.S.C. 102(e), is improper and therefore should be withdrawn.”.

The Examiner disagrees and asserts, that, it is inherently to the operation of the PLL that PLL block to operate before a minimum time period, otherwise the system will not work. Gillig discloses this point as indicated in the previous Office Action in column 4 line 39-46, also in the abstract (lock time), in column 4 lines 1-46, and in figure 6 with T1 and T2 column 9 lines 4-15. Gillig proposes a technique to reduce this lock time as indicated in the previous Office Action (column 4 line 39-46). Gillig also indicates this lock time as prior art in his patent (US 5497126 column 3 line 36 to column 7 line 37) and in his patent with Kosiec (US 5838202 figures 4 and 5 column 7 line 52 to column 9 line 22), so the operation before a minimum time period is inherently in the use of PLL. These patents were presented in the previous Office Action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Gillig (US 6185411).

As per claim 1 Gillig discloses an apparatus for generating transmission local oscillation signals and reception local oscillation signals in a mobile wireless terminal (column 1 line 21), with a first phase locked loop (PLL) block configured to generate a transmission local oscillation signal (figure 1 block 109 and figure 2, column 1 line 57); a second PLL block for generating a reception local oscillation signal (figure 1 block 108 and figure 2, column 1 line 56-57); and a controller configured to control the first PLL block to operate before a minimum time period required for the first PLL block to lock up from the start point of a transmission burst period, and to control the second PLL block to operate before a minimum time period required for the second PLL block to lock up from the start point of a reception burst period (figure 1 block 110 and figure 3 block 301, column 4 line 39-46).

As per claim 2 Gillig discloses an apparatus for generating a transmission local oscillation signal and a reception local oscillation signal in a mobile wireless terminal (column 1 line 21), with a first PLL block configured to generate the transmission local oscillation signal (figure 1 block 109 and figure 2, column 1 line 57); a second PLL block configured to generate the reception local oscillation signal (figure 1 block 108 and figure 2, column 1 line 56-57); and a controller for controlling the first PLL block to operate before an end point of a reception burst period and controlling the second PLL block to operate before an end point of a transmission burst period (figure 1 block 110 and figure 3 block 301, column 4 line 39-46).

As per claim 3 Gillig discloses a method of generating a transmission local oscillation signal in a mobile wireless terminal (column 1 line 21) and a reception local

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oscillation signal having a first PLL block for generating the transmission local oscillation signal and a second PLL block for generating the reception local oscillation signal, controlling the first PLL block to operate before a minimum time period required for the first PLL block to lock up from the start point of a transmission burst period (figure 1 block 110 and figure 3 block 301, column 4 line 39-46); and controlling the second PLL block to operate before a minimum time period required for the second PLL block to lock up from the start point of a reception burst period (figure 1 block 110 and figure 3 block 301, column 4 line 39-46).

As per claim 4 Gillig discloses applying the reception local oscillation signal generated from the second PLL block to a radio receiver for the reception burst period (figures 1-3 block 116, column 6 line 16); and applying the transmission local oscillation signal generated from the first PLL block to the radio receiver for the transmission burst period (figures 1-3 block 117, column 6 line 16).

As per claim 5 Gillig discloses a method of generating a transmission local oscillation signal and a reception local oscillation signal in a mobile wireless terminal (column 1 line 21) having a first PLL block for generating the transmission local oscillation signal and a second PLL block for generating the reception local oscillation signal in a wireless terminal, controlling the first PLL block to operate before the end point of a reception burst period (figure 1 block 110 and figure 3 block 301, column 4 line 39-46); and controlling the second PLL block to operate before the end point of a transmission burst period (figure 1 block 110 and figure 3 block 301, column 4 line 39-46).



As per claim 6 Gillig discloses applying the reception local oscillation signal generated from the second PLL block to a radio receiver for the reception burst period (figures 1-3 block 116, column 6 line 16); and applying the transmission local oscillation signal generated from the first PLL block to a radio receiver for the transmission burst period (figures 1-3 block 117, column 6 line 16).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hietala (US 6327319) discloses a phase detectors for phase locked loops and, more particularly to, a phase detector with frequency steering for phase locked loops. Kosiec (US 5497126) and (US 5838202) discloses a radio communication transceivers and, more particularly, to a phase synchronization circuit and method therefor for a phase locked loop in a radio communication transceiver. Momtaz (US 59501.15) discloses a High Speed Phase Lock Loop Having High Precision Charge Pump With Error Cancellation, and High Speed Phase Lock Loop Having Constant Bandwidth. Gillig (US 5448763) discloses a radio communication transceivers and, more particularly, to an apparatus and method for operating a phase locked loop frequency synthesizer responsive to radio frequency channel spacing in a radio communication transceiver.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres  
05-09-2005

  
**MOHAMMED GHAYOUR**  
**SUPERVISORY PATENT EXAMINER**